

## Crystal ball questions on Primary, secondary and tertiary haloalkanes and alcohols

*All of the following questions have not (as yet!) appeared in the NCEA Level 2 Exams*

**QUESTION:** Answer the following questions on primary, secondary and tertiary haloalkanes and alcohols

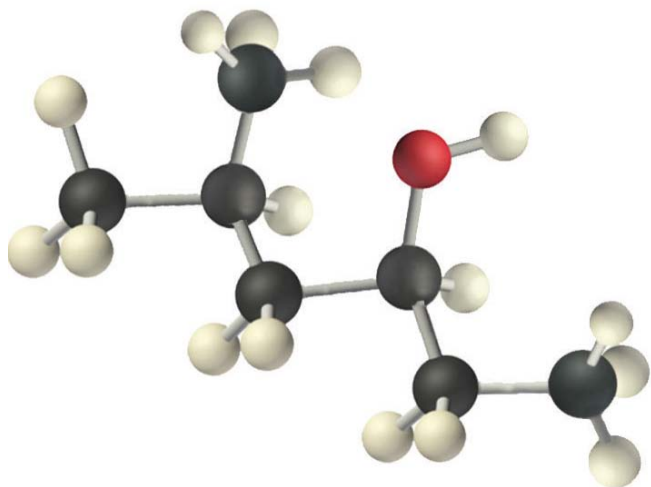
1) State and explain whether the following molecules are primary, secondary or tertiary halogenoalkanes.

$\begin{array}{ccccc} & \text{H} & & \text{H} & & \text{H} \\ &   & &   & &   \\ \text{H} & - \text{C} & - & \text{C} & - & \text{C} & - \text{Cl} \\ &   & &   & &   \\ & \text{H} & & \text{H} & & \text{H} \end{array}$	$\begin{array}{ccccccc} & & & & \text{H} & & \\ & & & &   & & \\ & & & & \text{H} - \text{C} - \text{H} & & \\ & & & &   & & \\ & \text{H} & & \text{H} & & \text{H} & \\ &   & &   & &   & \\ \text{H} & - \text{C} & - & \text{C} & - & \text{C} & - \text{C} & - \text{H} \\ &   & &   & &   & & \\ & \text{H} & & \text{H} & & \text{H} & & \\ & & & & \text{H} - \text{C} - \text{H} & & \\ & & & &   & & \\ & & & & \text{Cl} & & \end{array}$	$\begin{array}{ccccc} & \text{H} & & \text{H} & & \text{H} \\ &   & &   & &   \\ \text{H} & - \text{C} & - & \text{C} & - & \text{C} & - \text{Cl} \\ &   & &   & &   \\ & \text{H} & & \text{H} & & \text{H} & \\ & & & & &   & \\ & & & & & \text{H} - \text{C} - \text{H} \\ & & & & &   \\ & & & & & \text{H} \end{array}$

2) Name this alcohol and explain why it is classified as a “Tertiary alcohol”

$\begin{array}{c} \text{CH}_3 \\   \\ \text{CH}_3\text{CH}_2 - \text{C} - \text{OH} \\   \\ \text{CH}_3 \end{array}$ <p>a tertiary alcohol</p>	
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3)



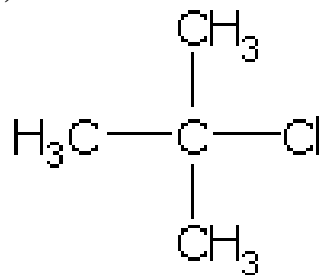
Organic molecules can be represented using molymods.

Name the molecule represented to the left and describe it as primary, secondary or tertiary.

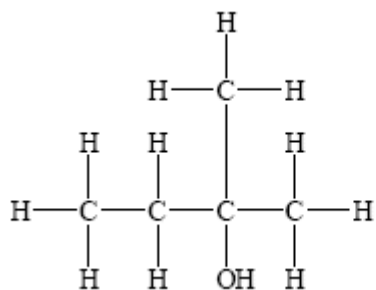
For following colours represent specific atoms: carbon: black, hydrogen: white, oxygen: red

4) Draw and name the isomers of C<sub>3</sub>H<sub>8</sub>O and describe them as primary, secondary or tertiary.

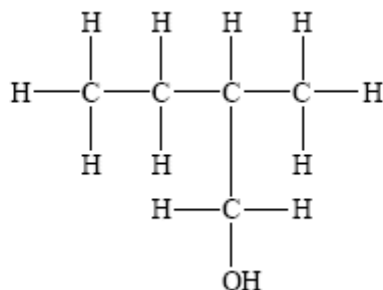
5) Name this haloalkane and classify it as primary, secondary or tertiary



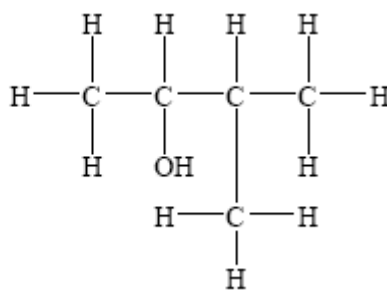
6) Which is the correct classification of these alcohols (answer A, B, C or D)



1



2



3

	1	2	3
A.	tertiary	secondary	primary
B.	tertiary	primary	secondary
C.	tertiary	tertiary	secondary
D.	secondary	primary	secondary

7) Name and classify the following molecule as primary, secondary or tertiary

